



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,365	02/26/2004	Jyi-Maw Hung	12036-US-PA	2364

31561 7590 11/17/2008
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
----------	--------------

2629

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

11/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW
Belinda@JCIPGROUP.COM.TW

Office Action Summary	Application No. 10/708,365	Applicant(s) HUNG ET AL.	
	Examiner Jeff Piziali	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) 1,2 and 4-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 August 2008 has been entered.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

Specification

4. The disclosure is objected to because of the following informalities:

Art Unit: 2629

The specification amendment (filed on 15 August 2008) to "paragraph [0008]" newly includes the subject matter of, "*M.sub.1.about.M.sub.n*" and "*R.sub.51.about.R.sub.5n*" (see lines 3-4 on page 9 of the amendment). Such subject matter should be corrected.

Appropriate correction is required.

5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 20-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Independent claim 20 recites the subject matter: "*an operational amplifier having a non-inverting terminal coupled to a reference voltage, an inverting terminal coupled to the first terminal of the feedback resistor*" (see lines 9-10).

Art Unit: 2629

Independent claim 27 recites the subject matter: "*an operational amplifier having a non-inverting terminal coupled to a reference voltage, an inverting terminal coupled to the first terminal of the feedback resistor*" (see lines 15-17).

Such *operational amplifier terminal coupling* subject matter was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

On the contrary, Figure 4 of the instant invention shows an operational amplifier [254] having an inverting terminal [-] coupled to a reference voltage [251], a non-inverting terminal [+] coupled to the first terminal of the feedback resistor [R].

8. Claims 20-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Independent claim 20 recites the subject matter: "*an operational amplifier having a non-inverting terminal coupled to a reference voltage, an inverting terminal coupled to the first terminal of the feedback resistor*" (see lines 9-10).

Dependent claim 23 further recites the subject matter: "*the Gamma voltage is equal to a sum of the first and the second currents multiplied by the resistance value of the feedback resistor.*"

Art Unit: 2629

Independent claim 27 recites the subject matter: "*an operational amplifier having a non-inverting terminal coupled to a reference voltage, an inverting terminal coupled to the first terminal of the feedback resistor*" (see lines 15-17).

Dependent claim 30 further recites the subject matter: "*the Gamma voltage is equal to a sum of the first and the second currents multiplied by the resistance value of the feedback resistor.*"

Such *operational amplifier terminal coupling* subject matter was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

On the contrary, Figure 4 of the instant invention shows an operational amplifier [254] having an inverting terminal [-] coupled to a reference voltage [251], a non-inverting terminal [+] coupled to the first terminal of the feedback resistor [R].

9. The remaining claims are rejected under 35 U.S.C. 112, first paragraph, as being dependent upon rejected base claims.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 20-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2629

12. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*a circuit disposed on a glass substrate of a display panel **for generating a Gamma voltage signal***" (in lines 1-2). For example:

It would be unclear to one having ordinary skill in the art what claim element is intended to be the subject of the expression, "***for generating a Gamma voltage signal.***" Is the circuit for generating a Gamma voltage signal? Or is the glass substrate for generating a Gamma voltage signal? Or rather is the display panel for generating a Gamma voltage signal?

13. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

The term "***fist terminal***" in claim 20 (in line 5) is used by the claim to mean "*an undefined type of terminal*", while the accepted meaning is "*the terminal of a fist (perhaps a human finger or knuckle)*." The term is indefinite because the specification does not clearly redefine the term.

Art Unit: 2629

14. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.

Claim 23 recites the subject matter: "*the Gamma voltage is equal to a sum of the first and the second currents multiplied by the resistance value of the feedback resistor.*"

The omitted steps are: how such a Gamma voltage can result in light of the *operational amplifier terminal coupling* subject matter detailed in independent claim 20.

15. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***a control/modify circuit***" (in line 3). For example:

It would be unclear to one having ordinary skill in the art whether the claimed element is intended to be either "***a control circuit***" or "***a modify circuit***" or "***a control and modify circuit***."

An omitted structural cooperative relationship results from the claimed subject matter: "*a driving circuit, disposed on a glass substrate of the display panel and coupled to the display panel and the control/modify circuit, **for driving the display panel***" (in lines 1-2). For example:

It would be unclear to one having ordinary skill in the art what claim element is intended to be the subject of the expression, "***for driving the display panel***." Is the driving circuit for

Art Unit: 2629

driving the display panel? Or is the glass substrate for driving the display panel? Or rather is the control/modify circuit for driving the display panel?

16. Claim 27 recites the limitation "***the circuit***" (in line 7). There is insufficient antecedent basis for this limitation in the claim. For example:

It would be unclear to one having ordinary skill in the art whether this limitation is intended to refer to the "***control/modify circuit***" (in line 3), the "***driving circuit***" (in line 5), or the "***at least a circuit***" (in line 7).

17. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.

Claim 30 recites the subject matter: "*the Gamma voltage is equal to a sum of the first and the second currents multiplied by the resistance value of the feedback resistor.*"

The omitted steps are: how such a Gamma voltage can result in light of the *operational amplifier terminal coupling* subject matter detailed in independent claim 27.

18. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

Art Unit: 2629

The term “***fist terminal***” in claim 27 (in line 11) is used by the claim to mean “*an undefined type of terminal*”, while the accepted meaning is “*the terminal of a fist (perhaps a human finger or knuckle)*.” The term is indefinite because the specification does not clearly redefine the term.

19. The remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon rejected base claims.

20. The claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

As a courtesy to the Applicant, the examiner has attempted to also make rejections over prior art -- based on the examiner's best guess interpretations of the invention that the Applicant is intending to claim.

However, the indefinite nature of the claimed subject matter naturally hinders the Office's ability to search and examine the application.

Any instantly distinguishing features and subject matter that the Applicant considers to be absent from the cited prior art is more than likely a result of the indefinite nature of the claims.

The Applicant is respectfully requested to correct the indefinite nature of the claims, which should going forward result in a more precise search and examination.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2629

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 20-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Clifton et al (US 6,388,648 B1)*** in view of the ***Instant Application's Admitted Prior Art (i.e., the APA)***.

Regarding claim 20, ***Clifton*** discloses a circuit [e.g., *Fig. 14; 180*] disposed on a display panel [e.g., *Fig. 2; 12*] for generating a Gamma voltage signal [e.g., *Fig. 14; 188R output, Rout*], comprising:

at least a first Gamma resistor [e.g., *Fig. 14; 186R*] having a first terminal [e.g., *Fig. 14; 186R input*] for receiving a first digital (e.g., *available in electronic form*) signal [e.g., *Fig. 14; R*] and a second terminal [e.g., *Fig. 14; 186R output*] for outputting a first current;

at least a second Gamma resistor [e.g., *Fig. 14; 210G, 212G*] having a first terminal [e.g., *Fig. 14; 210G, 212G input*] for receiving a second digital signal [e.g., *Fig. 14; G*] and a second terminal [e.g., *Fig. 14; 210G, 212G output*] for outputting a second current;

a feedback resistor [e.g., *Fig. 14; 190R*] having a first terminal [e.g., *Fig. 14; 190R left-side terminal*] coupled to the second terminal of the first Gamma resistor and the second terminal of the second Gamma resistor; and

an operational amplifier [e.g., *Fig. 14; 188R*] having a non-inverting terminal [e.g., *Fig. 14; 188R +*] coupled to a reference voltage [e.g., *Fig. 14; ground*],

an inverting terminal [e.g., *Fig. 14; 188R -*] coupled to the first terminal of the feedback resistor for receiving the first and the second currents, and

Art Unit: 2629

an output terminal [*e.g.*, *Fig. 14; 188R output*] coupled to a second terminal [*e.g.*, *Fig. 14; 190R right-side terminal*] of the feedback resistor for outputting the Gamma voltage signal, wherein the Gamma voltage signal is determined by the first current, the second current and the feedback resistor (*e.g.*, *see the entire document, including Column 13, Line 57 - Column 15, Line 6*).

Clifton does not expressly disclose the circuit being disposed on a glass substrate of a display panel.

However, the **APA** discloses disposing image driving circuitry [*e.g.*, *Fig. 1a; 120*] and gamma circuitry [*e.g.*, *Fig. 1a; 140*] on a glass substrate of a display panel [*e.g.*, *Fig. 1a; 110*] for generating a Gamma voltage signal [*e.g.*, *Fig. 1c; G*] (*e.g.*, *see the entire APA, including Paragraphs 5-8*).

Clifton and the **APA** are analogous art, because they are from the shared inventive field of gamma circuitry for liquid crystal displays.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use the **APA's** gamma/driving-circuitry-on-glass arrangement with **Clifton's** circuitry, so as to provide a conventional gamma circuitry arrangement.

Regarding claim 21, **Clifton** discloses a resistance value of the first Gamma resistor is equal to a resistance value of the feedback resistor (*e.g.*, *see the entire document, including Column 13, Lines 57-66*).

Art Unit: 2629

Regarding claim 22, **Clifton** discloses a resistance value of the second Gamma resistor is a multiple of the resistance value of the first Gamma resistor (*e.g., see the entire document, including Column 13, Line 57 - Column 14, Line 33*).

Regarding claim 23, **Clifton** discloses the Gamma voltage is equal to a sum of the first and the second currents multiplied by the resistance value of the feedback resistor (*e.g., see the entire document, including Column 13, Line 57 - Column 15, Line 6*).

Regarding claim 24, **Clifton** discloses the reference voltage is a ground voltage (*e.g., see the entire document, including Fig. 14; Column 13, Line 57 - Column 15, Line 6*).

Regarding claim 25, **Clifton** discloses the circuit is applied to a driving circuit [*e.g., Fig. 9; 104*] for driving the display panel (*e.g., see the entire document, including Column 13, Line 57 - Column 15, Line 6*).

Regarding claim 26, **Clifton** discloses the display panel is a liquid crystal display panel (*e.g., see the entire document, including Column 13, Line 57 - Column 15, Line 6*).

Regarding claim 27, this claim is rejected by the reasoning applied in rejecting claim 20; furthermore, **Clifton** discloses a display apparatus [*e.g., Fig. 2*], comprising: a display panel [*e.g., Fig. 2; 12*];

Art Unit: 2629

a control/modify circuit [e.g., Fig. 2; 14], for providing at least a first digital (e.g., *available in electronic form*) signal [e.g., Fig. 14; R] and a second digital signal [e.g., Fig. 14; G]; and

a driving circuit [e.g., Fig. 14; 180], disposed on the display panel and coupled to the display panel and the control/modify circuit, for driving the display panel,

the driving circuit comprising at least a circuit for generating a Gamma voltage signal [e.g., Fig. 14; 188R output, Rout],

the circuit comprising:

at least a first Gamma resistor [e.g., Fig. 14; 186R] having a first terminal [e.g., Fig. 14; 186R input] for receiving a first digital signal [e.g., Fig. 14; R] and a second terminal [e.g., Fig. 14; 186R output] for outputting a first current;

at least a second Gamma resistor [e.g., Fig. 14; 210G, 212G] having a first terminal [e.g., Fig. 14; 210G, 212G input] for receiving a second digital signal [e.g., Fig. 14; G] and a second terminal [e.g., Fig. 14; 210G, 212G output] for outputting a second current;

a feedback resistor [e.g., Fig. 14; 190R] having a first terminal [e.g., Fig. 14; 190R left-side terminal] coupled to the second terminal of the first Gamma resistor and the second terminal of the second Gamma resistor; and

an operational amplifier [e.g., Fig. 14; 188R] having a non-inverting terminal [e.g., Fig. 14; 188R +] coupled to a reference voltage [e.g., Fig. 14; ground],

an inverting terminal [e.g., Fig. 14; 188R -] coupled to the first terminal of the feedback resistor for receiving the first and the second currents, and

Art Unit: 2629

an output terminal [*e.g.*, *Fig. 14; 188R output*] coupled to a second terminal [*e.g.*, *Fig. 14; 190R right-side terminal*] of the feedback resistor for outputting the Gamma voltage signal, wherein the Gamma voltage signal is determined by the first current, the second current and the feedback resistor (*e.g.*, *see the entire document, including Column 13, Line 57 - Column 15, Line 6*).

Clifton does not expressly disclose the circuit being disposed on a glass substrate of a display panel.

However, the **APA** discloses disposing image driving circuitry [*e.g.*, *Fig. 1a; 120*] and gamma circuitry [*e.g.*, *Fig. 1a; 140*] on a glass substrate of a display panel [*e.g.*, *Fig. 1a; 110*] for generating a Gamma voltage signal [*e.g.*, *Fig. 1c; G*] (*e.g.*, *see the entire APA, including Paragraphs 5-8*).

Clifton and the **APA** are analogous art, because they are from the shared inventive field of gamma circuitry for liquid crystal displays.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use the **APA's** gamma/driving-circuitry-on-glass arrangement with **Clifton's** circuitry, so as to provide a conventional gamma circuitry arrangement.

Regarding claim 28, this claim is rejected by the reasoning applied in rejecting claim 21.

Regarding claim 29, this claim is rejected by the reasoning applied in rejecting claim 22.

Art Unit: 2629

Regarding claim 30, this claim is rejected by the reasoning applied in rejecting claim 23.

Regarding claim 31, this claim is rejected by the reasoning applied in rejecting claim 24.

Regarding claim 32, this claim is rejected by the reasoning applied in rejecting claim 26.

Response to Arguments

23. Applicant's arguments filed 15 August 2008 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 20-32 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/
Primary Examiner, Art Unit 2629
5 November 2008